



WATER, ENVIRONMENT AND MANAGEMENT

Computerised MIS for RWS programme

Dr (Mrs) Shefali Dash



ABSTRACT

The Rajiv Gandhi National Drinking Water Mission (RGNDWM), Ministry of Rural Development, Government of India provides safe drinking water to the rural poor through various schemes like Accelerated Rural Water Supply Programme (ARWSP), Minimum Needs Programme (MNP), etc. Manual monitoring of the time to time progress (both physical & financial) is very difficult. Hence a computerised Programme Monitoring System (PMS) has been designed. The Rig Monitoring System (RMS) is another software which deals with the performance of Rigs available throughout the country. Recently, a survey has been conducted on the status of Drinking Water Supply in Rural Habitations. A computerised MIS has been developed for this project.

INTRODUCTION

Informatics, characterised in the long term by extensive nation wide computer communication network, is necessary for decentralised scientific, economic and social developments. The National Informatics Centre (NIC) under the aegis of Planning Commission, Government of India, provides computer based informatics services to the central/state Government Ministries and Departments and the district administration throughout the country on continuous basis. The information flow between the district administration, state government and the government of India is carried out through NICNET, NIC's satellite based computer communication network. Provision of drinking water supply in the rural areas is the responsibility of the states and funds have been provided to the State budgets right from the commencement of the First Five Year Plan in 1951. However, during mid sixties, it was found that Rural Water Supply Schemes were implemented only in the easily accessible villages, thus neglecting the hard core rural areas. Therefore, the Government of India requested the states to identify Problem Villages (PVs) so that more efforts could be put to tackle these PVs. The Accelerated Rural Water Supply Programme (ARWSP), and Minimum Needs Programme (MNP) were initiated to accelerate the pace of coverage of the PVs. The National Drinking Water Mission was launched in 1986 to further intensify the drive. The norms for providing drinking water to the villages are as follows:

- a) Minimum of 40 litres of safe drinking water per capita per day (lpcd) for human beings.
- b) 30 lpcd additionally for cattle in desert districts.
- c) One handpump or standpost for every 250 persons.
- d) Water should be available within a radius of 1.6 kms.
- e) The water should be safe i.e. free from biological or chemical contamination.

To focus the attention on more difficult parts of the country, 55 Mini Mission Districts were chosen where pace of work is intensified. Similarly, to ensure the water quality, 5 sub missions were identified where integrated scientific and technological approaches were made to deal with specific problems like salinity, excess iron, flouride, bacteriological contamination, etc.

ROLE OF NIC

To achieve the goal of providing safe drinking water to all the villages of the country, various schemes were undertaken by the RGNDWM. For improvement of performance and cost effectiveness, a computerised information system has been envisaged to monitor the progress of each scheme as well as the status of coverage of the villages and the population benefitted. NIC has been acting as the technical adviser for the projects of the RGNDWM and has agreed to assist in software development. NIC has installed one 386 based PC/AT with 8 terminals at the RGNDWM office. These terminals are allotted to senior officers of the division to monitor the progress of different projects. This super AT is again connected to the NIC network NICNET through dial up modems. The NIC computer cell at the RGNDWM office is manned by competent staff who develop MIS systems and also assist in day to day activities like report generation, office automation, word processing, transmitting messages to various districts through NICMAIL etc. Besides these computing facilities at Delhi, the Public Health Engineering Department (PHED) officials at the district and state headquarters are also assisted by the NIC officials in feeding in the information to the computer, generating reports for their own use, and transmitting it to Delhi through the NICNET.

COMPUTERISED MIS

A Management Information System (MIS) processes raw data and provides information to the competent authority for planning, coordination, control and monitoring. A computerised MIS is a more sophisticated method of providing useful information in different formats to different levels of administrators for assisting them in discharging their duties in a more efficient manner.

i) Programme Monitoring System:

A survey was conducted in 1985 and 162,000 PVs were identified for coverage. MNP, ARWSP, Desert Development Programme (DDP) and Advance Plan Assistance (APA) were the main programmes through which the massive objective of providing safe drinking water to all the PVs as well as the non PVs were to be carried out. To monitor the progress of these programmes, information has to be collected about the fund released under these programmes individually, expenditure incurred, population benefitted, villages covered, etc. Information regarding the progress of the Mini Mission districts are also to be collected separately. All these information is collected at the district level. However, for planning and monitoring purpose, this information should be available at the state as well as at the centre. Keeping this requirement in mind, the PMS was developed. Since the main objective was to transfer information from the districts to the centre via state headquarters, NICNET is found to be the most suitable mode of communication. NIC already has established nodes at the districts and state headquarters with the mainframe computer installed at Delhi. Hence the process of data interchange can be carried out most effectively through this Network. Information collection for this process is a gigantic task since the programmes are widely spread. It has to be remembered that the information system should ask for relevant data, but should not be very elaborate so that collection becomes an impossible task. A proper balance has to be reached between the two extremes. The data entry formats have been designed keeping in view the strategic information needs for planning, management and operational control of the programme. Special emphasis has been given to the level from which information is to be collected and the level at which it is to be used as well as the fact that concerned officials must receive that information to the extent and time frequency appropriate for the system. Using this data, reports are generated catering to the requirement of the officials at all levels. PMS is a completely menu driven software package having the option of data entry, updation, export/import of data and generation of various types of reports. This system is developed to monitor the following.

- i. Physical Progress
- ii. Financial Progress
- iii. Habitation Details
- iv. Schemes
- v. Mini Mission Activities
- vi. Sub Mission Activities

The software designed for the districts has data entry screens which look exactly like the input proforma for data collection supplied by the MRD to the states where data is to be entered so that data entry becomes easy. A check list is generated by this package. After authenticated by the Executive Engineer, PHED using a Network communication software called 'RADIX', these are transferred to the computer system of the NIC's State unit. A check list is again generated which is to be authenticated by the competent authority of the PHED at the state headquarters. After authentication of data, reports are generated to monitor the progress of various programmes more efficiently. The information is then sent to the RGNDWM through NICNET for monitoring at the central level. For proper monitoring of the progress of different programmes under the RGNDWM, this computerisation has to be implemented all over the country. The Executive Engineer (PHED) has to ensure that the data of the previous month is collected in the prescribed formats and given to the District Informatics Officer (DIO) of NIC for smooth flow of the information. In this way, progress of all programmes can be monitored with the least amount of delay due to data transfer which is inherent in conventional methods.

ii) Rig Monitoring System:

Mechanised drilling Rigs are being used for drilling borewells all over the country for the purpose of rural water supply. Water Supply through borewells constitute a very significant part of the total water supply programme. Since the rigs are highly expensive equipments, each rig is utilised to cover a large area for drilling bores. The achievements in the Water Supply Programme depend vastly on the performance of these rigs. Hence the performance of these rigs have to be monitored extensively. Monitoring the progress of the rigs becomes complicated because in addition to there being various types of Rigs i.e. Air Rotary, Air cum Mud Rotary, etc., ownership also varies from Departmental, Contractor to UNICEF, and performance of each category of Rigs have to be monitored separately. The Rig Monitoring Systems (RMS) software has been developed to assist the personnel of the PHEDs at the states and the MRD at Delhi. The State RMS creates the database at the state level which consists of the list of drilling rigs in the state, their pre-set target, and the districts to which the rigs are allotted for drilling bores. The data has to be entered every month and reports are to be generated giving details of the number of bores drilled, performance of the rigs, villages/blocks where bores were drilled, etc. This monthly report gives a fair idea to the responsible authority regarding the location of the rigs, their performance, rate of breakdown, etc. From the detail information available at the state, a few selected items are chosen and sent to the centre in the form of reports. At the centre, the centre RMS is operational. It has got facility to create/update the state information about the rigs and their performance. Reports are generated every month regarding the performance of different types of rigs in all the states. Whenever, information is not received from any state, reminders are generated by the computer which are sent to the defaulting states. The state RMS is developed in DOS environment because most of the state PHEDs have PC/XTs and PC/ATs, where as, the centre RMS runs in foxplus in XENIX. It is now proposed to convert the state RMS to Foxplus so that reports can be

sent to the centre through NICNET, instead of sending it by post. Using NICNET to transfer data will save time. Data entry work at central level also could be avoided. Since NIC's State Informatics Centres are located in all the states, NIC machines could be used for this project.

iii) Scheme Monitoring Systems:

The SMS has been developed to monitor different schemes sanctioned by the Government of India to provide drinking water in the rural areas and the status of their progress. Whenever a proposal for a scheme comes, details of the villages/habitations to be covered, population proposed to be benefitted, target date for starting and completing the scheme, funds to be allocated, etc. are entered into the database. With this information, reports can be generated at any time giving the status details of any scheme previously sanctioned by the RGNDWM.

iv) Habitation Monitoring System:

After the intensive programmes undertaken by the RGNDWM, the number of problem villages is reduced considerably. A stage has now come when the emphasis could be shifted from the villages to rural habitations. Under these circumstances, it is necessary that a base line information databank should be created giving the status of RWS in the rural habitations. There are about 6 lakh villages in the country but the exact number of rural habitations is not yet known. Therefore, it has become necessary to conduct a nationwide survey to collect all relevant information. The RGNDWM has designed a set of data entry formats in close collaboration with NIC. After collecting data in these formats, they will be computerised and a number of reports will be generated giving information regarding the status of coverage of rural habitations by the RWS Programmes, water quality and the methods utilised to make them safe for drinking etc.

Besides these, a number of office automation systems like File Monitoring System, Tour Monitoring system, Journal Tracking System, etc. have been developed and implemented. All these systems are being used in the division regularly, thereby increasing the efficiency of monitoring.

CONCLUSION

The objective of a MIS is to provide information to the management for planning, executing and monitoring various programmes. A MIS can be declared successful if it meets the user's requirements with simple, operational tools. It should have the flexibility for future modification and expansion. It should be easy to operate and most important, the hardware and software provided for this purpose should be easily accessible. It can be said, with confidence and pride, that all the MIS developed for the RGNDWM by NIC are successful.